



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/685,270	10/14/2003	Thomas L. Mikes	10004278-1	4933

7590 12/20/2004
Agilent Technologies, Inc.
Legal Department, DL 429
Intellectual Property Administration
P.O. Box 7599
Loveland, CO 80537-0599

EXAMINER

HUGHES, JAMES P

ART UNIT	PAPER NUMBER
----------	--------------

2883

DATE MAILED: 12/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/685,270

Applicant(s)

MIKES ET AL.

Examiner

James P. Hughes

Art Unit

2881

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10-14-03 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 101403.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Oath/Declaration

1. The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because it is lacking the signature of Thomas J. Mikes. The petition to accept declaration without the inventor's (Mr. Mikes) signature pursuant to 37 CFR 1.47, was received on October 14, 2003 but has not been considered at this time.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dragone et al. (6,263,127) in view of Xiang et al. (6,266,140). Dragone et al. (6,263,127), wherein after referred to as "Dragone", teaches a free-space multiplexer and demultiplexer wherein multi-wavelength component light enters a free-space multiplexer and demultiplexer – which could also be considered a spectrometer – via an input optical fiber interface (e.g., 102) interface. Within the spectrometer, the light is reflected off of a diffraction grating (e.g., 501) that spectrally separates the multi-wavelength light into its constituent wavelength component

Art Unit: 2881

signals. Following, constituent wavelength component signals are directed to a plurality of output fibers (e.g., 502 – 505). (See e.g., Col. 3, ll. 35 – Col. 4, ll. 60; Figs. 4 and 5)

Additionally, as Dragone discusses (See e.g., Col. 1, ll. 14 – 55) it is well known in the art that the same device may multiplex and demultiplex optical signals.

However, Dragone does not explicitly teach that the free-space multiplexer and demultiplexer comprises a concentric spectrometer.

Xiang et al. (6,266,140), herein after referred to as “Xiang” teaches an aberration correcting concentric spectrometer wherein multi-wavelength component light is reflected from a mirror (30) onto an aberration corrected diffraction grating (100) that spectrally separates the multi-wavelength light into its constituent wavelength component signals. Following, the individual channels are reflected from a concave mirror (40) and directed to an output device (50).

One of ordinary skill in the art at the time of the invention would have been motivated to incorporate an aberration corrected concentric spectrometer such as taught by Xiang, into the multiplexer and demultiplexer of Dragone; because Xiang teaches that an aberration corrected concentric spectrometer may reduce the crosstalk (resolution) between the constituent wavelength component signals of a demultiplexer (See e.g., Col. 1, ll. 15-45) and as Dragone acknowledges, suppressing the inter-signal crosstalk from the constituent wavelength component signals is advantageous (See e.g., Col 1, ll. 15-25).

Conclusion

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Mikes et al. (2002/0030814), herein after referred to as "Mikes", teaches a grating based multiplexer and demultiplexer wherein multi-wavelength component light enters an aberration correcting demultiplexing spectrometer (e.g., 1) via at least one fiber in an optical fiber bundle interface. Within the spectrometer, the light is reflected off of a concave mirror (20) and is directed to an aberration corrected convex diffraction grating (30) that spectrally separates the multi-wavelength light into its constituent wavelength component signals. Following, the individual channels are reflected from a concave mirror (40) and directed to an output device (e.g., 50, 120). (See e.g., paragraphs 5- 15 and Fig. 1)

Solgarred et al. (2001/0009596) teaches a multi-wavelength cross-connect optical switch wherein optical signals are multiplexed and demultiplexed via diffraction gratings. Solgarred also teaches that such devices may also be employed as spectroscopic applications. (Abstract)

Harr (6,421,479) teaches the well known aspects that a single device may be employed for multiplexing and demultiplexing signals. (Col. 1, ll. 45 – Col. 2, ll. 10)

Palumbo et al. (6,181,418) teaches a concentric spectrometer that can correct for aberrations and while performing wave-length multiplexing and demultiplexing of signals. (See, Col. 13, ll. 45-64; Col. 7, ll. 35-45 and Figs. 10A-11)

Mikes et al. (6,522,404) teaches a grating based communication switching. (Abstract)

Chrisp (5,880,834) teaches a convex diffraction grating imaging spectrometer. (Abstract)

Ducellier et al. (6,707,959) and Weverka et al. (6,501,877) teach wavelength separating routers and switches. (Abstract)

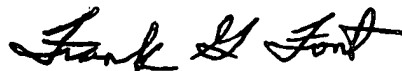
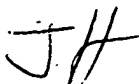
Art Unit: 2881

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James P. Hughes whose telephone number is 571-272-2474. The examiner can normally be reached on Monday - Friday 9am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John R. Lee can be reached on 571-272-2477. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

James P. Hughes
Patent Examiner
Art Unit 2883



Frank G. Font
Supervisory Patent Examiner
Technology Center 2800